

Chapter 7

Interactivity: Revolution and Evolution in Narrative

Interactivity is the most recognizably innovative, potentially revolutionary, and intellectually intriguing of the born-digital affordances. Indeed, it is arguably the *only* born-digital affordance to offer something genuinely unprecedented to the literary experience. Digital production, discussed in the previous chapter, may make the publishing process faster, more accessible, and more inclusive – yet however much it improves the print model, it does not reinvent it. Multimodality, the subject of the next chapter, may allow for new combinations of the written word, moving pictures, and sound – yet in doing so, it simply unites into a single medium possibilities that were previously distributed among several. The digital affordance of interactivity, in contrast, offers something entirely new. There is no pre-digital version of a written text that asks *you* to act out the role of its protagonist, to determine the unfolding of the narrative, and to directly affect its outcome. Janet H. Murray thus calls interactivity “the defining activity of the digital medium.” In a digital text, she writes, there is “a pleasure of agency,” a “sense of participating in a world that responds coherently to our participation.” The best that a printed narrative can hope for is to be “immersive”; the experience of interacting with a digital text, in contrast, is “not just immersive, it is *animated*.”¹

This chapter focuses on two distinct forms of text-based interactive narrative: hypertext and Interactive Fiction (IF). Both present a clear contrast with their print-based predecessors. Whereas a reader moves through a book by turning pages, these interactive digital forms require direct input from their reader in order to move from one chunk of text (called a “lexia”) to the next: in a hypertext, the reader must navigate a series of choices, and in IF, the reader must type in textual commands. The first part of the chapter focuses on the reception of hypertext in the 1990s, a decade of bold claims and counterclaims for interactivity in digital fiction. Many critics argued that hypertext fiction would undo the fundamental categories of narrative and usher in a new literary era characterized by a democratic leveling of author and reader. Many others, however, countered that hypertext was neither as revolutionary at the level of narrative as its adherents claimed nor indeed any more “interactive” than print

fiction. From the inflated rhetoric of the 1990s, we move to a close investigation of two more recent interactive texts: Stephen Marche’s hypertext *Lucy Hardin’s Missing Period* and Emily Short’s work of IF, *Galatea*. These texts show that, even if interactive literary forms do not fundamentally transform the nature of narrative, they nonetheless allow skilled writers to achieve moving effects unachievable in print.

The Rise and Fall of Hypertext

Given its focus, this book is necessarily oriented toward the future: most of the subjects it investigates are emergent, and one of its refrains is that since we are living the transition to the digital in real time, we cannot stand outside and judge its significance. Hypertext fiction, in this future-oriented context, presents an unusual case: it is one of the few digital literary forms that can be plausibly regarded as dead.² Incubated in the 1980s and released into the public imagination in the early 1990s, hypertext was largely forgotten by the dawn of the new millennium. Its spectacular dramatic arc – hypertext’s Icarian trajectory – is neatly captured by a pair of essays published in the Books section of the *New York Times* at opposite ends of the 1990s. Robert Coover’s “The End of Books,” published in June 1992, declared “the print medium . . . a doomed and outdated technology”; “the novel . . . as we know it,” Coover said, “has come to its end.”³ Print, he prophesied, would be replaced by the digital medium; the novel, for its part, would be replaced by hypertext fiction. For Coover, the changeover from the printed novel to the electronic hypertext was not just a technological inevitability but a moral imperative as well. Calling the novel a “virulent carrier of the patriarchal, colonial, canonical, proprietary, hierarchical and authoritarian values of a past that is no longer with us,” he attacked its distinguishing feature: “the line, that compulsory author-directed movement from the beginning of a sentence to its period, from the top of the page to the bottom, from the first page to the last.” Hypertext, by contrast, nonlinear and interactive, heralded a new democratic age. “With its web of linked lexias, its networks of alternate routes (as opposed to print’s fixed unidirectional page-turning),” he argued, “hypertext presents a radically divergent technology, interactive and polyvocal, favoring a plurality of discourses over definitive utterance and freeing the reader from domination by the author.” Because readers actively choose their path through the web of links in a hypertext and often take on the role of a character in the narrative, Coover argued that in the brave new world of hypertext, the previously isolated figures of reader and author would become “co-learners” and “co-writers.” The advent of hypertext

marked nothing less than an epochal shift. "Fluidity, contingency, indeterminacy, plurality, discontinuity" were not only "the hypertext buzzwords of the day" but also were "fast becoming principles, in the same way that relativity not so long ago displaced the falling apple."

Just six years later, hypertext's chance had passed. In a March 1998 response to Coover, Laura Miller bookended hypertext's moment in the sun with an article titled, appropriately, "Bookend." Looking back at Coover's prediction that hypertext would displace the printed novel, Miller succinctly noted that, in the intervening years, she had "yet to encounter anyone who reads hypertext fiction," adding, "What's most remarkable about hyperfiction is that no one really wants to read it, not even out of idle curiosity."⁴ Hypertext's fundamental premise – that "readers ought to be, and long to be, liberated from two mainstays of the traditional novel: linear narrative and the author" – turned out, Miller argued, to have been doubly flawed. Navigating the linked structure of hypertexts was not liberating or empowering but "profoundly meaningless and dull." Speaking for many nonreaders of hypertext, she asked,

If any decision is as good as any other, why bother? Hypertext is sometimes said to mimic real life, with its myriad opportunities and surprising outcomes, but I already have a life, thank you very much, and it is hard enough putting that in order without the chore of organizing someone else's novel.

As for Coover's contention that navigating this structure would make her a "co-writer," she retorted, "I could just write my own book if writing is what I really want to do," because no one was stopping her. The "end of books," she concluded, "will come only when readers abandon novels for the deconstructed stories of hypertext, and that is strictly a fiction."

History has taken Miller's side. The works that seemed so revolutionary and world altering to Coover – Michael Joyce's *Afternoon, a story* (1987/1991) and Stuart Moulthrop's *Victory Garden* (1992) – were not only seldom read in their own time, but are today literally unreadable, languishing in antiquated software and hardware formats inaccessible to the contemporary reader. Yet the precipitous rise and fall of hypertext in the 1990s remains a fascinating story, punctuated by bold declarations of a new age for literature and earnest efforts to rethink literary theory in the light of digital innovations. The most enduring legacy of this period is theoretical rather than creative: if works like *Afternoon* have been lost in the shifting sands of technological advancement, the pioneering efforts of hypertext critics such as Jay David Bolter, George Landow, and Espen J. Aarseth remain required reading for anyone looking to understand digital-native narrative forms like videogames. It is fitting, indeed,

that theory is the main legacy from the hypertext excitement of the 1990s, because it was theory – particularly poststructuralist theory – that incited this excitement in the first place.

Bolter and Landow: Hypertext and Social Transformation

The two most important early works on the theory of hypertext – Bolter's *Writing Space* (1991) and Landow's *Hypertext* (1992) – explicitly argue its connection with poststructuralism. Landow's *Hypertext* is subtitled *The Convergence of Contemporary Critical Theory and Technology* and opens with the argument that "over the past several decades literary theory and computer hypertext, apparently unconnected areas of inquiry, have increasingly converged."⁵ In particular, Landow argues that hypertext "creates an almost embarrassingly literal embodiment" of two crucial poststructuralist ideas: Roland Barthes's conception of the "readerly" text and Jacques Derrida's emphasis on discursive decentering.⁶ Landow quotes Barthes's description in *S/Z* (1970) of an "ideal text" in which "the networks are many and interact, without any one of them being able to suppress the rest" – a text that "has no beginning," "is reversible," and to which "we gain access . . . by several entrances, none of which is authoritatively declared to be the main one."⁷ For Landow, Barthes's "ideal text" "precisely matches that which has come to be called computer hypertext."⁸ Landow argues that Derridean works such as *Glas* (1974) and *Of Grammatology* (1967), emphasizing "openness, intertextuality, and the irrelevance of distinctions between inside and outside," anticipate the logic of digital textuality and offer *avant la lettre* descriptions of "extant hypertext systems."⁹ In *Writing Space*, Bolter agrees that "radical theorists" such as Barthes and Derrida "speak a language that is strikingly appropriate to electronic writing."¹⁰ Citing Barthes's distinction between work and text – where the "plural" text links reader and writer "together in a single signifying process"¹¹ – Bolter finds it remarkable that someone who "did not know about computers" could produce such insightful descriptions of hypertext.¹² Citing Derrida's description of text as "a differential network, a fabric of traces referring endlessly to something other than itself,"¹³ Bolter argues that it "sounds very much like text in the electronic writing space."¹⁴

The appeal of hypertext to critics like Bolter and Landow was closely tied to its amenability to, and embodiment of, poststructuralist theory. Yet they saw hypertext not just as a confirmation of the correctness of Derridean and Barthesian philosophy but also as a vehicle for promoting its political ideals.

Because poststructuralism's political thrust was often buried in abstruse and unreadable works of philosophy, hypertext seemed to them a way to "mainstream" poststructuralist ideology – to make poststructuralism go viral. For Bolter and Landow, hypertext embodied and prefigured a more egalitarian, democratic world. In Bolter's words, "the electronic book reflects a different natural world, in which relationships are multiple and evolving"; if the printed book implies a hierarchical "great chain of being," hypertext promotes a view of the world as a "network of interdependent species and systems."¹⁵ In Landow's view, experiencing hypertext was a consciousness-raising activity that served to explode the notions of authorial property and individual genius embedded in printed books.¹⁶ The "hypertextual dissolution of centrality," Landow argued, "which makes the medium such a potentially democratic one, also makes it a model of a society of conversations in which no one conversation, no one discipline or ideology, dominates or founds the others."¹⁷ Bolter and Landow argued that hypertext would carry out its mission by embedding itself in humanity's most powerful means of self-reckoning: storytelling. By redefining certain basic categories of narrative, it would change our understanding of our world. The two most important changes, Bolter and Landow claimed, were the interactive engagement of the reader and the elimination of linear plot. Whereas the printed text proceeds in a fixed sequence determined by the author, Bolter argued that in hypertext the author merely "lays out a textual space" for the reader, who then "joins in actively constructing the text by selecting a particular order of episodes."¹⁸ Gone is the Romantic mystique of the author-creator; now the reader is on a level plane:

The author is no longer an intimidating figure, not a prophet or a Mosaic legislator in Shelley's sense. The author's art is not a substitute for religious revelation, and authors do not lay down the law. The electronic author assumes once again the role of a craftsman, working with defined materials and limited goals. . . . The text is not simply an expression of the author's emotions, for the reader helps to make the text.¹⁹

For Landow, hypertext "challenges narrative and all literary form based on linearity," in particular notions of "(1) fixed sequence, (2) definite beginning and ending, (3) a story's 'certain definite magnitude,' and (4) the conception of unity or wholeness associated with all these other concepts."²⁰ The existence of "multiple reading paths" not only "shift[s] the balance between reader and writer"²¹ but indeed "blurs the boundaries between reader and writer."²² By doing so, Landow argues, hypertext "instantiates" one of his most cherished of Barthesian aims: "to make the reader no longer a consumer, but a producer of

the text."²³ In ways that a previous generation of writers such as Benjamin and Woolf could only have dreamed of (see Ch. 2), hypertext would quite literally transform the passive reader into an active writer.

The Frustrations and Limitations of Hypertextual Interactivity

Bolter and Landow's ideals – their perception that, in championing hypertext, they were helping promote horizontality, dialogue, and equality in the political as well as the literary sphere – were certainly laudable. But in the years since *Writing Space* and *Hypertext* appeared, many have questioned whether their ideas were firmly grounded in narrative theory. In the *Cambridge Introduction to Narrative*, H. Porter Abbott asks whether hypertext truly effects the "radical" break with print narrative that Bolter and Landow perceived. As Abbott points out, hypertext invented neither nonlinear structure nor readerly choice in determining a narrative path: Julio Cortazar's printed novel *Hopscotch* (1963) allowed readers to choose the order in which they read its chapters, and Marc Saporta's *Composition no. 1* (1962) was presented as a box containing unnumbered pages to be read in the order of the reader's choosing. Indeed, all printed books give their readers the freedom to skip from one section to another, to skim, to flip, to read out of order. Recalling the Russian Formalists' distinction between *fabula* – the raw chronological sequence of events told in a narrative – and *syuzhet* – the manner in which this chronological sequence is narrated in a particular telling – Abbott further points out that even that most ancient of Western literary texts, Homer's *Iliad*, is "nonlinear" in the sense that it begins *in medias res* ("in the middle of things") and then skips forward and backward in time while recounting the Greek victory over the Trojans. Further, although readers of hypertext may have the freedom to create a personalized *syuzhet* as they navigate its pathways, the story that they recover on this path will nonetheless remain linear, because *fabula* is by definition linear and chronological. Homer can construct his telling (*syuzhet*) of the Trojan War in whatever order he likes, beginning in the middle, skipping back to the beginning, flashing forward to the end, and so on. But the actual story on which his narrative is based, the war itself, is inescapably something that happened in a strictly linear chronological order, because that is how time – the medium in which all *fabula* must operate – inescapably moves. "Strictly speaking," Abbott concludes, "hypertext *lexia* are simply a new twist on an old narrative condition."²⁴ Readers of hypertexts such as Michael Joyce's *Afternoon, a story* are no different from readers of any novel with a complex and nonlinear *syuzhet*,

struggling as they proceed to wrest a firm sense of the underlying story from a sometimes disorienting narration.

Just as pre-digital literature can be conceived as “nonlinear,” many critics have argued that literature in print is already deeply “interactive.” This is the principal insight of another school of twentieth-century literary criticism, reader-response theory. Critics such as Wolfgang Iser and Stanley Fish argue that written words are only the beginning of the literary experience, insisting that the literary text is “created” as much by the reader as the writer. Though the author puts the words on the page, the reader brings them to life through the process of reading, much as a musician brings an orchestral score to life through performance. In “The Reading Process” (1974), Iser argues that the literary work possesses “two poles”: “the text created by the author” and “the realization accomplished by the reader.” A work of literature cannot be said to truly exist until it is actualized through the act of reading: “the convergence of text and reader,” Iser argues, “brings the literary work into existence.”²⁵ The work of the reader, moreover, consists not in the passive reconstitution of the intentions of the author, but in the active construction – even co-creation – of the text. The literary reader must, for example, fill in “inevitable omissions” that authors leave in narratives: “whenever the flow is interrupted and we are led off in unexpected directions,” Iser argues, “the opportunity is given to us to bring into play our own faculty for establishing connections – for filling in the gaps left by the text itself.”²⁶ The filling of such gaps is not an onerous imposition on the reader, but the source of much pleasure, allowing readers to insert themselves imaginatively into the narrative. Hypertext choice cannot possibly transform readers into co-authors, reader-response critics argue, because reading already is – and has always been – an intrinsically creative activity.

In *Cybertext: Perspectives on Ergodic Literature* (1997), Espen J. Aarseth offers a reply to such criticisms. The reason that the reader of a hypertext is “a more integrated figure than even reader-response theorists would claim,” Aarseth argues, is that while “the performance of [a print] reader takes place all in his head,” the user of a hypertext “also performs in an extranoematic [i.e., physical, outside the confines of the mind] sense.”²⁷ Aarseth, notably fond of critical coinages and abstruse terminology, distinguishes “cybertexts” such as hypertexts and Interactive Fictions from traditional narrative on the grounds that cybertexts are “ergodic.” “In ergodic literature,” he explains, “nontrivial effort is required to allow the reader to traverse the text” – whereas in traditional “nonergodic” literature, “the effort to traverse the text is trivial, with no extranoematic responsibilities placed on the reader except (for example) eye movement and the periodic or arbitrary turning of pages.”²⁸ Contrary to

the reader-response model, Aarseth argues that a traditional reader, “however strongly engaged in the unfolding of a narrative, is powerless”:

Like a spectator at a soccer game, he may speculate, conjecture, extrapolate, even shout abuse, but he is not a player. Like a passenger on a train, he can study and interpret the shifting landscape, he may rest his eyes wherever he pleases, even release the emergency brake and step off, but he is not free to move the tracks in a different direction. He cannot have the player's pleasure of influence: “Let's see what happens when I do *this*.” The reader's pleasure is the pleasure of the voyeur. Safe, but impotent.²⁹

Aarseth's arguments, deliberately controversial, have drawn their own share of rebuttals. In *The Language of New Media* (2002), Lev Manovich warns against overly literal understandings of “interactivity” that equate it with physical interactions such as “pressing a button, choosing a link, moving the body”; Manovich repeats the reader-response theorists' insistence on the active, constructive nature of “the psychological process of filling-in, hypothesis, recall, and identification.”³⁰ In *Reading Machines* (2011), Stephen Ramsay argues that Aarseth underestimates the literal effect that “noematic” or nonphysical interpretation can have on a narrative. For Ramsay, “The minute someone proposes to explain the meaning of a narrative – to speculate, conjecture, extrapolate, or shout abuse at it, whether in the privacy of one's thoughts or in a critical journal – the narrative changes, because we are no longer able to read it without knowledge of the paratextual revolt.”³¹ One cannot limit oneself to individual texts in considering the question of interactivity, Ramsay argues, because a whole network of communal, collaborative, and constructive discussion surrounds them: discussions that take place in classrooms, in the pages of academic journals, in reading groups, in living rooms, in online forums. These discussions are interactive in themselves, involving many actors in dialogue with one another, and they also interact with the literary texts they bring under discussion, changing how we envision and engage with their narratives.

Another school of thought goes further still in responding to the claims of early hypertext enthusiasts, arguing that hypertext offers its readers *less* choice than traditional printed narratives. In *Planned Obsolescence* (2011), Kathleen Fitzpatrick argues that “hypertext is somewhat deceptive in its claims to activate the reader”:

Upon picking up a book to read, I have the entire text in my hands, all at once, and I can do anything with it that I choose – read the entire thing in a linear fashion, read the end before the beginning, use the index to find the only three pages I really need to read, flip back and forth

between different sections. With a hypertext, not only do I not have the entire text available to me at the outset – some pathways only becoming activated by prior choices, some choices remaining hidden – but it is also often unclear what options I do have before me, what choices I can make, and what relationship those choices bear to the shape of the text as a whole. All I can do as a reader is follow the choices that the author has allowed. The process of reading a hypertext is thus, in its way, more determined than the process of reading a book, and the experience of reading can at times seem more focused on attempting to divine the author's encoded intent than on creating a reader-centered text.³²

In *Writing Space*, Bolter wrote enthusiastically of the way that a hypertext reader “can follow paths through the space in any direction, limited only by the constraints established by the author.”³³ Yet these constraints are always palpable in a hypertext and very often frustrating. Fitzpatrick reports that many of her students feel “manipulated” by the looming, abstracted, decision-granting power of the author.³⁴ For Manovich, this feeling comes from the fact that hypertext reifies or objectifies processes of psychological association that, in traditional printed narrative, are left to the reader: “Before, we would read a sentence of a story or a line of a poem and think of other lines, images, memories”; “Now interactive media asks us . . . to follow pre-programmed, objectively existing associations.” “Put differently,” Manovich argues, “we are asked to mistake the structure of somebody else's mind for our own.”³⁵

In her 1998 *New York Times* article, “Bookend,” Laura Miller argued that, in the end, it did not matter much whether hypertext granted more or less freedom than its printed alternatives. Reading, she contended, is not a struggle for freedom from the author; it is an act of willing submission to the author's exquisite and dominating consciousness. Responding to Robert Coover's dismissal of readers who “surrender to novels as a way of going on holiday from themselves,” Miller argued that this “surrender,” “the intimacy to be had in allowing a beloved author's voice into the sanctum of our minds,” is exactly what most readers want. “Is it a holiday,” she asked, “when we issue this invitation to guests whose appeal lies precisely in their distinctive, unequivocal, undeniably authoritative voices”? Might we rather call this “an expansion of ourselves”?³⁶ In his contemporaneous *The Gutenberg Elegies* (1997), Sven Birkerts enthusiastically takes Miller's side. Birkerts attempts to give hypertext a fair hearing, yet when he sits down at a computer terminal and actually tries to navigate a real-life hypertext's web of links, he finds the experience an “assault upon what [he] had unreflectingly assumed to be [his] reader's prerogatives.” “Domination by the author is the *point* of writing and reading,” he writes in the wake of his hypertext experience. “The author masters the resources of

language to create a vision that will engage and in some way overpower the reader,” and “the reader goes to the work to be subjected to the creative will of another.”³⁷ The debate in the 1990s over the literary politics of hypertext was nothing if not extreme: one the one side, critics foreseeing the liberation of the reader from the enslavement of the author; on the other, critics proclaiming absolute enslavement to be the source of all literary pleasure.

Twenty-First-Century Hypertext: Stephen Marche's *Lucy Hardin's Missing Period*

A quarter-century after the first eruption of enthusiasm for hypertext and long after the dust has settled from the critical controversies that ensued, we find ourselves in an ideal moment for reevaluating the form. With the passing of the poststructuralist moment, hypertext no longer bears the burden of having to confirm or embody the ideas of Barthes and Derrida. Having had time to reflect on the questions of its interactivity and nonlinearity, we no longer ask hypertext to effect a radical break with narrative as it exists in print. Having witnessed its failure to catch on with readers, we no longer expect it to topple social hierarchies nor singlehandedly produce a more egalitarian, democratic world. Approaching the genre with more modest expectations, we are able to see hypertext for what it is: a narrative form that shares much in common with older forms, but whose subtle differences allow skilled writers to achieve poignant artistic effects not possible in print.

Stephen Marche's 2010 *Lucy Hardin's Missing Period*, published on the website of the Canadian general-interest magazine *The Walrus*, presents a compelling example of toned-down twenty-first-century hypertext.³⁸ Marche, a journalist, print novelist, and, as we have seen, a prominent critic of quantitative approaches to literary analysis (see Ch. 5), approaches the hypertext genre with motivations very different from those that propelled the first wave of hypertext authors. Marche bears no illusions about the marketing appeal of the term “hypertext” in the twenty-first century and pointedly avoids the term in *Lucy Hardin's* subtitle, which identifies the work as “an interactive novel.” The work indeed owes less to Barthes and Bolter than it does to hypertext's contemporaneous print doppelgänger, the Choose Your Own Adventure (CYOA) novel. CYOA succeeded where hypertext failed in the 1980s and 1990s, bringing nonlinear, “interactive,” choice-based narrative to the masses, albeit in book form and to an audience of children. (A typical episode in a CYOA novel, for those unfamiliar with the genre, might narrate a walk through the woods on a moonlit night, when suddenly you hear a loud crack. You are given

the choice to turn to page 23 to keep walking in the woods – in which case you are eaten by a bear – or to turn to page 36 to turn around, in which case you end up in the arms of your companion and fall in love.) *Lucy Hardin* presents itself not as a return to the hypertext wars of the 1990s but rather as a reworking of CYOA for the generation that grew up reading these novels, but now faces the more difficult decisions of adulthood in the digital age.

Lucy Hardin's Missing Period is a story about a young woman who awakes one morning suspecting she may be pregnant. As the punning title implies, the text unfolds like a sentence without a period, lacking a definitive, authorized ending. Depending on the particular pathway the reader chooses, Lucy might discover she is not pregnant or, if she finds that she is, give birth, have a miscarriage, or decide to end her pregnancy. Other choices for Lucy and for the reader include whether or not to trust her often unreliable boyfriend, Daniel; whether or not to resign herself to the banal security of her job in legal publishing; and what to do about her hoarder mother, who lives entirely through old letters and photographs. As these various scenarios suggest, Marche presents choice not as a blessing – a fun, engaging, empowering diversion in the CYOA style – but as a weighty burden. Indeed, for Marche, hypertext neither offers a fantasy of free choice nor serves as a vehicle for placing author and audience on a level plane. The fact that Marche himself is in charge – that the author retains his hierarchical position in the text – is apparent from the first paragraph, the only passage that every reader must traverse, which contains an unsettling description of Daniel's naked body. As we proceed into the text's tree-like branching structure, the experience of choosing becomes a source of frustration. Often, rather than offering us a choice, the text forces us to click on the sole option presented. Although the words at these no-decision nodes are occasionally written in the voice of the reader, reflecting our curiosity or lack thereof ("Well?"), at other times they are clearly authorial, not only dictating our path through the narrative but also interpreting its meaning ("The ride to her sister's house and to maturity"). When we are given choices, the alternatives are often equally undesirable and difficult to decipher. Some choices are straightforward: when the text presents the alternative of "More College Street" and "Right to the grocery store," it is simply asking us whether we would prefer to read Marche's amusing but inessential descriptions of a busy Toronto shopping street or to skip over them and advance directly to the next important moment in the plot. But when we are asked to choose between "Her own fury, in the figure of a fly" and "A glimpse of how others must see her," we must do so blindly, because the meaning of the choice becomes clear only after we have taken it.

Clear choices are particularly crucial in *Lucy Hardin* not only because of the high narrative stakes – Lucy's happiness or misery – but also because

they cannot be undone. Whereas in a printed CYOA novel, one can return to an especially important decision by marking the spot with one's fingers, in *Lucy Hardin* our options disappear as soon as we have made a choice: there is no back button. The experience of choosing in *Lucy Hardin* thus tracks with that of Kathleen Fitzpatrick and her students: we routinely feel "manipulated" by a lack of clear or desirable choices and acutely aware of the hierarchical presence of the option-granting author. The difference between *Lucy Hardin* and most earlier hypertexts, however, is that in Marche's text this frustration is cultivated deliberately. Real life, Marche suggests, is itself a series of unsatisfying, constricted, and obscure choices, none of which can be undone. Though Laura Miller dismisses the notion that hypertext's "myriad opportunities and surprising outcomes" mimic real life, she would perhaps have been more sympathetic to the realism of Marche's limited choices and dreary outcomes.

Lucy Hardin's recasting of choice as a burden rather than a boon is underscored by a powerful detail of its narrative technique: its abandonment of the distinctive CYOA second person in favor of the third person. CYOA, as does much hypertext, stresses the interactive dimension of the reading experience by collapsing the reader/character distinction into the second-person pronoun "you": *you* are the camper being chased by a bear in the woods; *you* are the pilot of the space ship on whose fate the universe depends; *you* are the detective seeking to crack the case. The second person functions not only to draw the reader in but also to simplify the process of choosing: in deciding to turn and fight the marauding bear, for instance, one chooses simultaneously for oneself as a reader and for one's avatar in the story. In *Lucy Hardin*, the third person keeps the author/character/reader triad in play, forbidding such simplifications. Our position is paradoxical and indeterminate: we are not Lucy, yet we control her fate, albeit through an awkward and unclear choice mechanism controlled by the author. As such, each decision node binds us in an ethical dilemma: will we choose what is more interesting to ourselves as readers, or will we choose what we consider best for Lucy, the character, based on the information passed on to us by the author? When Lucy is offered a job as a dealer in an illegal card game – work that would take her away from her secure position at the legal publisher – we are offered a stark choice between "Risk" and "Security." As a reader, the narrative pull of an illegal card game is clearly stronger than that of a stable nine-to-five job; yet for Lucy, who may need to support a child, safety is clearly the more responsible option. The interests of reader and character are at odds in such instances; deciding which path to pursue requires a conscious decision whether to put Lucy's interests first or our own.

The ethical dimension is compounded by the fact that once we make a decision for Lucy, she immediately misrecognizes it as her own. In one scenario, Lucy's pregnancy test comes back positive, and we are asked whether she should call her mother or sister. If we choose her sister, the text reads "Stumbling to the phone beside the bed, Lucy knew that her sister was the woman to talk to" – but we know better: Lucy could not possibly have *known* she would call her sister, because we had just made this choice for her. Lucy indeed repeatedly misconstrues the pathways we have selected – however blindly or selfishly – as the inevitable workings of fate. In one lexia, the narrator reports, "She had known she was pregnant from the moment she woke up"; in another, Lucy holds her newborn son in her arms "at last, as it had always had to be." The disjuncture between what we know about Lucy's narrative trajectory and what Lucy thinks she knows about it – a form of dramatic irony possible only through choice-based storytelling – reveals something fundamental about the way narrative functions in everyday life. Because the choices we are presented with in life are so often limited and unsatisfying, and because decisions themselves are often out of our hands, we use narrative as a form of compensation: like Lucy, we tell ourselves stories of "it was meant to be" as a way of imposing a retrospective order and coherence onto what is largely the result of chance. As the critic Erich Auerbach writes,

There is always going on within us a process of formulation and interpretation whose subject matter is our own self. We are constantly endeavoring to give meaning and order to our lives in the past, the present, and the future, to our surroundings, the world in which we live; with the result that our lives appear in our own conception as total entities – which to be sure are always changing, more or less radically, more or less rapidly, depending on the extent to which we are obliged, inclined, and able to assimilate the onrush of new experience.³⁹

By stepping into Lucy's life at a moment of particularly intense change and watching as she weaves a narrative thread to encompass the twists and turns that we know are completely out of her hands – because they are mostly in ours – we not only receive a poignant demonstration of this function of narrative but also participate in acting it out.

This is not to say that *Lucy Hardin* could not have achieved similar effects in print; one can certainly imagine a printed CYOA version of the novel with identical lexia and options. Yet Marche makes subtle uses of digital-specific affordances to emphasize his theme. In a printed edition, we might still notice Lucy's mistaken perception that she had "known" she would call her mother; but we notice this far more readily when it appears instantly, as soon as

we have made our choice, rather than after we have gone searching for the proper page. Further, we take our choices more seriously when we know we cannot go back; we pause longer over the ethically loaded question of whose interests are served by a particular choice. The most effective digital affordance in *Lucy Hardin* comes in the form of its disappearing choices. In Marche's text, choices appear in green text at the end of paragraphs (Figure 7.1a). Once we have made our selection, however, the green choices dissolve, giving the illusion of an unbroken narrative and erasing all evidence of the points where Lucy's story might have branched out differently (Figure 7.1b). This digital feature, unachievable in print, captures beautifully the process of retrospective reformulation at work in Lucy's own mind. Through the use of such a simple and restrained device, Marche shows the promise of second-wave hypertext: not to revolutionize storytelling, but to use digital affordances to tell good stories better.

How to Talk to Machines: Interactive Fiction and Emily Short's *Galatea*

Twenty-first-century hypertexts such as *Lucy Hardin* are refreshingly honest: they turn down the volume on hypertext hype, they acknowledge the occasionally "manipulative" nature of hypertextual interactivity, and they use the genre's limitations productively in telling their stories. Yet, in their very humility, they can sometimes leave us wanting more. The unrealized vision of born-digital literature theorized in the 1990s continues to resonate; in theory, if not in practice, we are still drawn to the idea of a narrative able to develop in direct response to the desires and inputs of its reader. Indeed, the frustrations of hypertext help us imagine what such an ideal text might look like. Whereas hypertext offers us predetermined choices and often asks us to take them blindly, a genuinely interactive born-digital text would unfold with all the reciprocity of a good conversation, allowing us to say and do anything we choose, while still shaping our responses into a gripping story.

The genre of Interactive Fiction (IF) was the first textual form to approach this ideal. IF was invented in the mid-1970s by Will Crowther, a programmer at MIT whose working life was devoted to ARPANET, the foundation of the modern internet, and whose spare time was devoted to exploring caves. Uniting his vocation and avocation, Crowther developed a text-based computer game called *Adventure*, the aim of which was to gather treasures while navigating a labyrinthine network of caves. A few years after Crowther's first version, Don Woods, a programmer at Stanford, sought permission to tidy up the code and

A BLUE +. Lucy sat down on the toilet seat, reached for the back of the box. A blue + meant pregnancy. Stunned numbness and angry panic circled each other with bouts of clenching, and she sat on the toilet fingering the test strip like a ticket. To where?

Never having dealt with a pregnancy before, she was already screwing it up, ordinary thoughts intruding on what was obviously a crisis. The craftsmanship of the turquoise tiles in the bathroom was impeccable, no breaks on the edging or shaved pieces. Lucy craved a cigarette, raisiny and relieving, and then deeply craved red wine, osso bucco with roasted garlic spread on unsalted bread. The test could be wrong. She would do more tests. The test wouldn't be wrong.

Dampened knowledge blazed forth: Daniel, four, five weeks ago, fiddling with the condom, running the tap in the bathroom, returning nervously, but he had said, he had specifically said, that everything was all right.

CALL HER SISTER • • • CALL HER MOTHER

(a)

A BLUE +. Lucy sat down on the toilet seat, reached for the back of the box. A blue + meant pregnancy. Stunned numbness and angry panic circled each other with bouts of clenching, and she sat on the toilet fingering the test strip like a ticket. To where?

Never having dealt with a pregnancy before, she was already screwing it up, ordinary thoughts intruding on what was obviously a crisis. The craftsmanship of the turquoise tiles in the bathroom was impeccable, no breaks on the edging or shaved pieces. Lucy craved a cigarette, raisiny and relieving, and then deeply craved red wine, osso bucco with roasted garlic spread on unsalted bread. The test could be wrong. She would do more tests. The test wouldn't be wrong.

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STUMBLING TO THE PHONE beside the bed, Lucy knew that her sister was the woman to talk to. With five kids and at least one abortion, fertility had always been Judith's illness.

The line picked up halfway through the third ring — a squeal, the high whine of Lucy's nine-year old niece Julianna, and the barked authority of the twelve-year-old Margaret. A muted thud meant the receiver dropped on the carpet, a rustling like wrapping paper meant its retrieval.

(b)

Figures 7.1a–b *Disappearing choices in Stephen Marche's Lucy Hardin's Missing Period.*

expand the network of caves. The 1977 Woods-Crowther release of *Adventure* proved immensely popular in the small computing community of the time — so popular that it is said to have effectively stalled all computing work in the United States in the two weeks after it was released. *Adventure* also established ground rules for a new narrative form that, in the 1980s, became the most commercially successful genre of computer games, with titles such as *Zork* and the IF adaptation of *The Hitchhiker's Guide to the Galaxy* selling millions of copies. In IF, the player controls the actions of the “player character,” an avatar for the player who exists within the fictional world, by entering textual commands (“go north,” “pick up gold,” “ask about the artist”) that are in turn interpreted by a computer “parser.” If the parser understands the command, the player is moved through the world and rewarded with lexia that further describe the world and suggest subsequent actions. The parser is the feature that most clearly distinguishes IF from hypertext: at a hypertextual decision node, the computer is merely asked to produce the lexia corresponding to the reader's choice; yet in IF the computer has a more active role, because the parser must *interpret* the player's command before it can produce any output.

Though the commercial apogee of IF has long passed, a small but dedicated community of writers continues to pursue the form. Emily Short's *Galatea* (2000–2004)⁴⁰ is among the most remarkable of its products. Through its title, *Galatea* announces a complex chain of associations that connects it both to literary history and to the history of computing. The primary reference of the title is to Greek myth, Galatea being the name most often associated with Pygmalion's statue, so perfectly sculpted that it came to life. In *Pygmalion* (1909), George Bernard Shaw's dramatic adaptation of the myth, the Galatea figure is renamed Eliza Doolittle, a young Cockney girl whose uncouth speech is so thoroughly transformed by the phoneticist Henry Higgins that he falls in love, Pygmalion-style, with his own creation. Shaw's renaming of Galatea provides the link to Emily Short's other major reference: Joseph Weizenbaum's pioneering work of artificial intelligence (AI), ELIZA. Working at MIT in the mid-1960s, Weizenbaum developed a computer program that could convincingly replicate the naïve conversational style of a Rogerian psychotherapist. If one typed in a simple sentence such as “I'm depressed,” ELIZA would respond in a manner implying both understanding and empathy: “I am sorry to hear you are depressed.” When Weizenbaum released versions of the program in 1966, ELIZA came to resemble the Galatea of the Pygmalion myth in ways he had not anticipated. Though the program was quite crude, mostly regurgitating inputted text in the form of a question, those who used ELIZA routinely mistook it for a living thing — a sculpture come to life. Weizenbaum's own secretary asked him to leave the room when she was interacting with ELIZA,

given the intimacy of their conversations, and professional psychiatrists began recommending its use as an inexpensive means of bringing therapy to the masses. Though this reaction stunned Weizenbaum, ELIZA seemed for many of its users to pass the famous test that Alan Turing proposed for artificial intelligence: engaging with ELIZA in a typed conversation, many were unable to tell whether they were interacting with a human or a machine – proof enough, as Turing hypothesized in 1950, that the machine should be considered intelligent.⁴¹

Short's *Galatea* presents itself as an extension of the Galatea myth as filtered through Shaw and Weizenbaum. Its action unfolds in a single room in an art gallery, where our player character, a near-future art critic, has been dispatched to analyze Galatea, the latest in "animate" robotic statuary. In his capacity as a critic of AI art, the player character's goal is to perform an extended Turing Test – to draw Galatea out in conversation in such a way that she shows her robotic seams. If the critic takes too long to address Galatea at the beginning of the game, Galatea protests, "You might try speaking to me.... It's not polite merely to stare. And I've gotten very bored, standing here." The critic's detached response to Galatea's words (he silently classes them as "An attempt to engage the audience") shows that he approaches her not as an equal in conversation, but as an AI specimen to be probed, critiqued, and evaluated. In some instances, the critic is impressed by Galatea's performances. After he removes his hand from her shoulder following a tactile inspection, she shivers in response. "Animates don't do that," he thinks. "There's a conventional limit to their interactivity. They're meant to be touched – but not to react." In other instances, however, the critic is disappointed. When he presses Galatea for details on the process of her carving, she has very little to offer. When she tells the critic, "You've heard what I know," he responds, "No piece is going to get a serious critical reception with such a pathetic database"; as he tells her elsewhere, "I wouldn't say you exactly pass the Turing Test."

The narrative situation of *Galatea* closely mirrors our own situation. On the one hand, we approach the text as readers, eager to uncover Galatea's story. On the other hand, because we must navigate *Galatea's* clunky parser to access this story, we also find ourselves in the position of the critic, standing back to observe the all-too-apparent limits of the text's interactivity. Indeed, if the character Galatea appears at times to be passing the critic's Turing Test, *Galatea* the work of IF never comes close to passing our own version of that test. Certain aspects of *Galatea's* interactivity are impressively realistic. For instance, Galatea reacts differently to identical inputs depending on her mood: she will only agree to look into your eyes if you have first listened to her story, and she will only kiss you if you have shown her sufficient sympathy. Yet the

immensely awkward interface through which we must interact with Galatea precludes any genuine immersion in the story. Because the parser understands so few commands, we spend much of our time struggling to find the magic words that will unlock the narrative. The following exchange, recorded in one of my own logs, is frustratingly typical:

>ask about her

(Galatea)

"Read the placard," she says. "That's what it's there for, after all."

>read placard

Large cream letters on a black ground.

47. Galatea White Thasos marble. Non-commissioned work by the late Pygmalion of Cyprus. (The artist has since committed suicide.) Originally not an animate. The waking of this piece from its natural state remains unexplained.

>ask about waking

Which do you mean, which god woke her or the experience of waking?

>ask about experience of waking

You can't form your question into words.

>experience

That's not a verb I recognize.

>ask about waking experience

"What was it like, waking up?" you ask.

By this point in the game, I was sufficiently familiar with the interface to know that I would need to ask about something in the previous lexia to produce an interesting response. Yet just as I became interested in the dawn of Galatea's consciousness – her "awakening" – I was woken from the spell of narrative by a frustrating sequence of simple commands that the parser failed to understand.

As in *Lucy Hardin*, the feeling of playing *Galatea* is more often one of constraint than of freedom. One cannot type anything one wishes in an interactive fiction like *Galatea*. If one were to type, "Hey, Galatea, let's get out of here and grab a pizza" or "Look! Aliens! Run!" the parser would blandly respond, "You can't form your questions into words" or "That's not a verb I recognize." When the reader inevitably becomes frustrated in *Galatea* and types "help," the brief set of commands that *Galatea's* parser is able to understand is revealed, and the player is directed to a URL with a series of walkthrough

“cheats” – step-by-step recipes for producing interesting narratives. On the cheats page, Short writes,

I’ve said it over and over: I don’t want people playing to particular endings. I want them to play the game and get whatever result comes naturally, because that is what the game is built for. It’s a dispenser of stories, customized to the individual who is playing at the moment.

That’s my vision as the author.

Players, however, seem to have a different idea: a lot of them want to see *all* the text, or at least all the endings. And I have to admit that, while I hate to provide helps to that end (as the author), I can also see their point (as a player of other games). *Galatea* is horribly Protean; her moods change and you don’t always know exactly why; she responds differently to the same question at different times, and this makes it difficult to recover endings that one has already reached once. From my point of view as an author, these features were all desiderata, and I worked hard to produce them, in the name of realism and complexity and richness. From the point of view of the (re)player, they can get confusing after a while.⁴²

It is Short’s authorial goal to grant readers the freedom to create their own customized story. In my experience, however, very few players have the patience to exercise this freedom. The vast majority almost immediately end up on the cheats page and then derive whatever pleasure they take from *Galatea* by following the prompts of one of Short’s walkthroughs. In practice, Short remains very much the master of *Galatea*, pulling the levers that control not only what Galatea says but also what we type into the command line. Indeed, Short acknowledges this in one of her proffered walkthroughs, “Wizard of Oz.” This particular sequence ends with the critic pulling down the velvet curtain that lies behind Galatea, revealing a “rather short” woman – “a little on the dumpy side, and dressed in a ripped pair of blue jeans” – who has been controlling Galatea’s performance all along. “Sorry to disappoint,” this woman tells the critic: “It was an experiment that – well, it seemed like a good idea at the time.” The critic, taken aback, tells the woman, “You could start by telling me your *real* name.” We, of course, already know her name – because, if we have made it to the end of her walkthrough script, she has been controlling our performance as well.

Short’s frustration with her indolent readership is both understandable and justified, because the text’s most powerful effects emerge only when we accept the limitations of its maladroit parser and struggle against them. Only by rejecting the easy refuge of the “help” command – only by repeatedly reformulating our textual commands until the parser finally understands them – do we gain

access to the final and most fascinating symmetry between form and content in *Galatea*. To succeed in his task of analyzing and interacting with Galatea, the critic must accept the rapidly shifting landscape of her moods and learn to navigate it. Likewise, to succeed as players in *Galatea*, we must accept the limitations of another impetuous machine, *Galatea*’s parser, and then learn how to express our individual human wishes – the things we want to say to Galatea and to learn from her – in a machine language that this parser can understand. In this symmetry lies *Galatea*’s signature effect: its most ingenious use of the digital medium, and its most compelling comment on life in the digital age. As critics such as Sherry Turkle and Katherine Hayles have argued, human language and human interaction are today becoming increasingly reliant on machine language and human-machine interaction. In *Alone Together* (2011), Turkle describes a dangerous tendency to seek shelter from the risks and disappointments of human relationships in the clumsy but comparatively safe company of artificial intelligence. Turkle, a colleague of Joseph Weizenbaum at MIT in the 1970s, draws one of her most pertinent examples from ELIZA. She recalls that when graduate students interacted with ELIZA, a few would “[learn] enough about the program to trip it up,” yet many more would “[use] this same inside knowledge to feed ELIZA responses that would make it seem more lifelike.”⁴³ These students “knew all about ELIZA’s limitations, but they were eager to ‘fill in the blanks’”; they knew that ELIZA failed the Turing Test, but for some reason, they wanted it to *seem* as if ELIZA could pass it. Turkle calls this phenomenon “the ELIZA effect” and argues that this “human complicity in a digital fantasy” is becoming increasingly widespread in the digital age, because we are increasingly emotionally dependent on interactions with machines.⁴⁴ Katherine Hayles, however, argues that Turkle’s “ELIZA effect” is inevitable in a period when nearly all human communication, from e-mail and text messages to phone calls and snail mail, is mediated through some form of digital code.⁴⁵ As Hayles suggests, we have simply reached a point at which we can no longer express our humanity without the help of machine language. It is this paradoxical situation, finally, that *Galatea* dramatizes. Emily Short’s work does not merely *describe* this increasing intermingling of human and machine language, but asks its readers to *act it out*. The words of Hayles and Turkle will resonate most strongly with a player who has persevered through *Galatea*’s many frustrations and learned its central lesson: that to please a machine, you must learn to think like a machine, and to learn a computer’s story, you must learn to speak its language.

Interactive digital texts such as *Lucy Hardin* and *Galatea* succeed artistically in a manner that defies the expectations of early enthusiasts of the genre. These texts achieve their effects not by granting their readers perfect freedom but

by deliberately frustrating their ability to choose. Interactivity for Marche and Short is not a vehicle for empowerment, but a way of asking readers to act out intractable problems: to have them navigate the ethical terrain of a particularly difficult day in someone else's life or to throw them into the communicative difficulties of a world where human and machine intelligence have become increasingly interwoven. The most fascinating interactive fiction being written today does not do what Bolter or Landow predicted it would. Instead, it does what literature has always done: it finds new ways to bring readers more directly in contact with what it means to be alive in their place and time.

Chapter 8

Literature in the Digital Master Medium

It took many decades for the computer to develop into an expressive medium. The first computers were entirely unfit to serve as carriers of artistic expression: the only inputs they could understand were numerical, and the only operations they could perform were mathematical. With the development of standards like ASCII, text was the first expressive modality to go digital. In short order, textual artistic forms such as Interactive Fiction and hypertext emerged and took advantage of the unique expressive properties of the digital medium. It took much longer to devise means of representing the expressive modalities of music, images, and moving pictures. When such methods were finally perfected and popularized, from the 1990s onward, the computer became something more than merely another expressive medium. It became a master medium.

In 1985, Friedrich Kittler prophesied a time when "for the first time in history or for the end of history," "people will be connected to a communication channel which can be used for any kind of media."¹ "When films, music, phone calls, and texts are able to reach the individual household via fiber optic cables," he wrote, "the previously separate media of television, radio, telephone, and mail will become a single medium."² Kittler did not have to wait long for such a medium to come into being: the World Wide Web, developed in the early 1990s and still rapidly expanding, was exactly the communication channel he imagined. Capitalizing on developments in audio, image, and video compression, the development of graphical web browsers, and the increasing bandwidth of high-speed and dial-up connections, the Web was the first widely accessible carrier of the digital master medium. In *The Language of New Media* (2001), Lev Manovich wrote, "Today we are witnessing the emergence of a new medium – the meta-medium of the digital computer": "graphics, moving images, sounds, shapes, spaces, and texts have become computable; that is, they comprise simply another set of computer data."³

As the computer has transitioned from a device capable of transmitting only numbers and text to one able to carry multiple modalities, it has increasingly brought into question the notion of "literariness." In *Electronic Literature*: